TITLE 14 HOUSING AND CONSTRUCTION
CHAPTER 10 ELECTRICAL CODES
PART 4 2005 NEW MEXICO ELECTRICAL CODE

14.10.4.1 ISSUING AGENCY: The Construction Industries Division of the Regulation and Licensing Department.
[**14**.10.4.1 NMAC - Rp, **14**.10.4.1 NMAC, **7**-1-05]

14.10.4.2 SCOPE: This rule applies to all contracting work performed in New Mexico on or after July 1, 2005, that is subject to the jurisdiction of CID, unless performed pursuant to a permit for which an application was received by CID before that date.
[**14**.10.4.2 NMAC - Rp, **14**.10.4.2 NMAC, **7**-1-05]

14.10.4.3 STATUTORY AUTHORITY: NMSA 19**7**8 Section 60-13-9.
[**14**.10.4.3 NMAC - Rp, **14**.10.4.3 NMAC, **7**-1-05]

14.10.4.4 DURATION: Permanent.
[**14**.10.4.4 NMAC - Rp, **14**.10.4.4 NMAC, **7**-1-05]

14.10.4.5 EFFECTIVE DATE: July 1, 2005, unless a later date is cited at the end of a section.
[**14**.10.4.5 NMAC - Rp, **14**.10.4.5 NMAC, **7**-1-05]

14.10.4.6 OBJECTIVE: The purpose of this rule is to establish minimum standards for electrical wiring, as defined in CILA Section 60-13-32, in New Mexico.
[**14**.10.4.6 NMAC - Rp, **14**.10.4.6 NMAC, **7**-1-05]

14.10.4.7 DEFINITIONS: [Reserved]

14.10.4.8 ADOPTION OF THE 2005 NATIONAL ELECTRICAL CODE:

A. This rule adopts by reference the 2005 national electrical code, as amended by this rule.

B. In this rule, each provision is numbered to correspond with the numbering of the 2005 national electrical code.
[**14**.10.4.8 NMAC - Rp, **14**.10.3.8 NMAC, **7**-1-05]

14.10.4.9 ADMINISTRATION AND ENFORCEMENT:

A. Inspectors. See **14**.6.5 NMAC, Inspectors.

B. Disconnect Orders. See CILA Section 60-13-42.

C. Stop Orders. See **14**.5.3 NMAC, Inspections.

D. Unsafe Wiring. See **14**.5.1 NMAC, General Provisions.

E. Electrical Plan Review. See **14**.5.2 NMAC, Permits.

F. Electrical Permit. See **14**.5.2 NMAC, Permits.

G. Electrical Inspections.

(1) Inspections Required: See **14**.5.3 NMAC, Inspections.

(2) Electrical Customer-Owned Distribution System Requirements. See **14**.5.3 NMAC, Inspections.
[**14**.10.4.9 NMAC - Rp, **14**.10.4.8 NMAC, **7**-1-05]

14.10.4.10 AMENDMENTS TO THE 2005 NATIONAL ELECTRICAL CODE. The following amendments are made to the 2005 national electrical code. The article and section numbering is keyed to the national electrical code format.

A. Article 110. Requirements for Electrical Installations.

(1) 110.2 Add: Listing and labeling by a nationally recognized testing laboratory as listed by the occupation safety and health administration.

(2) Electrical wiring, equipment, or material that is not listed and labeled and a (UL) safety standard exists shall be certified by a nationally recognized testing laboratory approved by the electrical bureau.

(3) Electrical wiring, equipment, or materials that is not listed and labeled and a (UL) safety standards does not exist shall be certified by an electrical engineer licensed to practice in New Mexico. The certification will verify manufacturer's safety and performance test data of the product.

(4) 110.21. Marking of warning signs. All equipment used on circuits over 300 volts between conductors shall have a warning sign either on or adjacent to the equipment.

(5) Signs shall be made in accordance with ANSI Z535 environmental and safety signs. The language shall read:

(a) for voltages over 300 volts but less than 600 volts - install a 1" x 4" label that reads - "480 VOLTS";

(b) for voltages over 600 volts and there are exposed parts - "DANGER - HIGH VOLTAGE - KEEP OUT";

(c) warning signs shall be consistent with national electrical code articles 230.203, 3**7**0.**7**2 (e), 620.3 (a), 665.23, 490.53, and 490.55.

(6) 110.26 (A) Working space. Add: "Disconnects that do not provide over-current, overload, short circuit, or ground fault protection are not required to maintain the dimensions of 110.26(A)(1), (A)(2) and (A)(3) where adequate space is not readily available and the disconnect is permanently labeled "Not to be opened while energized".

(7) 110.26 (E) Exception no. 2: headroom. Add: "In underground water well pump enclosures, service equipment or panelboards that do not exceed 200 amperes, operating at 250 volts or less and only feeding equipment associated with the water well enclosure, shall be permitted in spaces where the headroom is less than six and a half feet (6 ½ ft.) but greater than five feet (5 ft.) provided the enclosure is supplied with a removable lid, that when removed would allow six and a half feet (6 ½ ft.) headroom".

B. Article 210. Branch Circuits.

(1) 210.8(B) (6) GFCI Protection. Add: " All 15 or 20 amp receptacles installed within six(6) feet of any sink shall be GFCI protected, unless otherwise specifically allowed in the 2005 national electrical code." Add exception: Receptacles for appliances and equipment within dedicated space that in normal use is not easily moved from one place to another, and that is cord and plug connected in accordance with section 400.**7**(A)(6)(**7**)(8).

(2) 210.11 (A) (1). Number of branch circuits. Add: "In dwelling occupancies, circuits for general purpose receptacles shall be limited to a maximum of ten (10) current consuming outlets. Single and duplex receptacle outlets are considered to be one current consuming outlet. Exception: Circuits serving only lighting loads may be calculated per article 220 of the national electrical code.

(3) 210.11 (C) (1). Small appliance branch circuits - dwelling unit. Add: "Not more than four (4) current consuming outlets shall be connected to these circuits. Single and duplex receptacle outlets are considered to be one current consuming outlet. Exception: Small appliance circuits that supply only dining area receptacles may serve not more than six (6) receptacle outlets".

(4) 210.11 (C) (2). Laundry area receptacle. "This circuit shall provide supply to the laundry equipment receptacle only. This circuit shall not serve any other outlets.

(5) 210.12 (B) Dwelling unit bedrooms. Change: " All branch circuits that supply 125-volt, single-phase, 15-and 20-ampere receptacle outlets installed in dwelling unit bedrooms shall be protected by a listed arc-fault circuit interrupter(s). Exception: The location of the arc-fault circuit interrupter shall be permitted to be at other than the origination of the branch circuit in compliance with (a) and (b) below:

(a) the arc-fault circuit interrupter installed within six feet (6 ft.) of the branch circuit overcurrent device as measured along the branch circuit conductors;

(b) the circuit conductors between the branch circuit overcurrent device and the arc-fault circuit interrupter shall be installed in a metal raceway or a cable with a metallic sheath."

(6) 210.19 (A). General. Voltage drop. Add: "Conductors for branch circuits shall be sized to prevent excessive voltage drop. Conductors on 15 amp branch circuits, between the overcurrent protection device and the farthest outlet served, shall not exceed **7**5 feet for # **14** AWG copper circuit conductors, or 150 feet for # 12 AWG copper, measured along the branch circuit conductors. Conductors on 20 amp branch circuits, between the overcurrent protection device and the farthest outlet served, shall not exceed **7**5 feet for # 12 AWG copper, or 150 feet for # 10 AWG copper, measured along the branch circuit conductors. Branch circuits exceeding 150 feet from the overcurrent device to the farthest outlet served measured along the branch circuit conductors, shall be sized so that the voltage drop does not exceed 5%."

(7) 210.52 (C) (3). Peninsula counter spaces. Add: " At least one receptacle outlet shall be installed at each peninsular counter space**,** when the total length of the peninsular has a long dimension of six (6) feet, or greater and a short dimension of one (1) foot, or greater. A peninsular countertop is measured from the connection edge."

(8) 210.52 (G) Basement and garages. Add: "Receptacle outlets must be installed a minimum of eighteen (18) inches above finished floor, in attached or detached garages."

(9) 210.**7**0 (A)(2)(D)&(C)(1) Lighting outlets required. Add: " At least one (1) switched lighting outlet shall be installed in all accessible attics and crawl spaces adjacent to the access point."

(10) 210.**7**0 (A) (2)(E). Lighting outlets switch locations. Add: "On single family dwellings at least one wall switch, or automatic lighting control such as a

motion detector shall be installed at each entrance or exit to control exterior illumination."

C. Article 215. Feeders.

(1) 215.1. Scope Wiring methods for feeders: Add: "Article 334, nonmetallic-sheathed cable and article 338, service entrance cable type SER, shall be permitted to be used for feeders in dwelling units providing the cables shall not pass through or under any other occupancy. Article 340. UF cable shall be permitted to be used underground for any occupancy, and indoors only in accordance with article 334, nonmetallic-sheathed cable, providing the cable shall not pass through or under any other occupancy."

(2) 215.2 (A) (4). Voltage drop. Add: "Feeder conductors shall be sized to prevent excessive voltage drop. The maximum voltage drop on both feeders and branch circuits at the farthest outlet of power shall not exceed eight percent (8%)."

D. Article 225. Outside Branch-Circuit and Feeders.

(1) 225.5 Voltage drop. Add: "Feeder conductors shall be sized to prevent excessive voltage drop. The maximum voltage drop on both feeders and branch circuits at the farthest outlet of power shall not exceed eight percent (8%)."

(2) 225.19 (A) Clearance above roofs. Exception no. 2. Delete in its entirety.

(3) 225.32 Location. Add: "The disconnecting means shall be located at a readily accessible point outside the building or structure and within thirty (30) feet and in sight of the building or structure; or within forty eight (48) inches from the point where the feeder conductor raceway enters the building or structure

(4) 225.32 Disconnect location. Exception no. 1. Change: "For industrial installations under single management, where documented safe switching procedures are established and maintained for disconnection, the disconnection means shall be permitted to be located elsewhere on the premises."

E. Article 230. Services.

(1) 230.24 (A) Clearance above roofs. Exception no. 2: Delete in its entirety.

(2) 230.28. Service masts as supports. Add: "Where a service mast is used for the support of service drop conductors, it shall be a minimum two inch (2") rigid metal conduit, intermediate metal conduit or comply with local utility requirements."

(3) 230.31 (D) Voltage drop. Add: "Where the underground service lateral is customer owned, the service lateral conductors shall be sized to prevent excessive voltage drop. The maximum voltage drop on the service lateral, feeders and branch circuits at the farthest outlet of power shall not exceed eight percent (8%). Customer owned includes all non-utility owned or operated service lateral conductors. "

(4) 230.43. Wiring methods for 600 volts, nominal, or less. Change: "Service entrance conductors shall be limited to the following wiring methods: article 330 metal-clad cable, 338 service-entrance cable type USE, 342 intermediate metal conduit, 344 rigid metal conduit, 352 rigid nonmetallic conduit, 358 electrical metallic tubing, 366 auxiliary gutters, 368 busways, 370 cablebus or 376 wireways. All other methods referred to in article 230.43 are hereby deleted."

(5) 230.54 (H) Add: "Overhead service support shall comply with the serving utility requirements or be at least six inch by six inch (6" x 6") pressure-treated

timber or equivalent round poles installed to a depth not less than four (4) feet below finish grade."

(6) 230.70 (A) Add: "The disconnecting means for each occupant of a multiple occupancy building shall be grouped at a common location.

(7) 230.70 (A) (1). General locations of service disconnect. Amend paragraph to read as follows: "The service disconnecting means shall be located at a readily accessible point. Where the disconnecting means is located outside the building or structure the disconnect shall be associated with the meter enclosure. Where the disconnecting means enclosure is located outside the building or structure within thirty (30) feet and in sight of the building or structure it will not be considered a separate structure but will require a permanent plaque located at the building distribution equipment stating the location of the building disconnecting means. Where the meter enclosure is located on the building or structure the service disconnecting means enclosure shall be located at a readily accessible point within forty eight (48) inches from the meter enclosure." Exception: "Bushing current transformer meter installations that are associated with the utility transformer are not required to be associated with the disconnecting means. Where the disconnecting means is located inside the building the disconnect shall be located at a readily accessible point within forty eight (48) inches from the point where the service conductor raceway enters the building or structure."

(8) 230.72 (A) Grouping of disconnects. Add: "All building or structure disconnects shall be grouped at one location and shall be separated by the least practical distance, not to exceed an overall distance of twenty (20) feet."

F. Article 240. Overcurrent Protection. 240.24 (F) Location in or on premises. Add: Overcurrent devices shall not be located in bathrooms, cupboards, pantries or similar locations which restrict ready access."

G. Article 250 - Grounding.

(1) 250.32 (B) (2). Two or more buildings, grounded conductor. Delete in its entirety.

(2) 250.50 Grounding electrode systems. Add: "On new construction a concrete encased electrode shall be considered available and installed in compliance with NEC 250.52(A) (3). If a concrete encased electrode is not present, at least 20 feet of No. 2 bare copper in direct contact with the earth at a depth below the earth's surface of not less than thirty (30) inches shall be installed with a minimum of two (2), eight (8) foot grounds rods spaced a minimum of six (6) feet apart."

(3) 250.52 (A)(5) Rod electrodes. Add: "Copper or copper-clad grounding electrodes shall be not less than 5/8" diameter and when in direct contact with the earth it shall be copper or copper-clad."

(4) 250.66 (B) Connections to concrete-encased electrodes. Amend paragraph to read as follows: "… the grounding electrode conductor shall not be smaller than #4 AWG copper."

(5) 250.104 (A). Bonding metal water piping systems. Add: "The hot and cold metal water pipes shall be bonded together at an accessible location. The bonding jumper shall be No. 6 copper minimum. Non-metallic water pipe systems, which contain short sections of metal water pipes and are not likely to become energized, are not required to be bonded."

(6) 250.118. Equipment grounding conductor. Add (15): "An equipment grounding conductor shall be installed in all branch circuit and feeder raceways on or above a roof. The equipment grounding conductor shall be sized in accordance with table 250.122."

H. Article 290. Energy Conservation.

(1) 290.10. Scope. "This article sets forth minimum requirements for the design of new buildings and structures or portions thereof and additions to existing buildings that provide facilities or shelter for public assembly, educational, business, mercantile, institutional, storage and residential occupancies designed primarily for human occupancy, by regulating their illuminating systems and equipment for effective use of energy."

(2) 290.20. Exempt buildings, areas, and equipment. For exemptions refer to the New Mexico energy conservation code.

(3) 290.30. Lighting power budget.

(a) The interior lighting power is the upper limit of the power to be available to provide the lighting needs in accordance with the criteria and calculation procedures specified herein, and shall include the load of lamps and ballasts.

(b) The interior lighting power shall not exceed the unit power density permitted by the New Mexico energy conservation code.

(c) In lieu of the unit power density method, the interior lighting power may be calculated in accordance with the electrical power and lighting **chapter** of the New Mexico energy conservation code.

(4) 290.40 Night Sky Protection Act. Outdoor lighting shall comply with the Night Sky Protection Act.

I. Article 300. Wiring Methods.

(1) 300.11 (A) Secured in place. Add: "Independent support wires shall be limited to support of flexible wiring methods from the last point of support or junction box for connections within an accessible ceiling to lighting fixtures or equipment."

(2) 300.11 (A) (1). Securing and supporting. This section shall apply to fire rated and non-fire rated ceiling assemblies.

(3) 300.11 (A) (1). Exception. Delete in its entirety.

(4) 300.11 (A) (2). Exception. Delete in its entirety.

(5) 300.**14**. Length of conductors at boxes. Add: "The six (6) inches shall be measured from the front edge of the box to the end of the conductor."

J. Article 310. Conductors for General Wiring. 310.2 (B). Conductor material. Add the restriction: "The use of aluminum current carrying conductors shall be of the AA-8000 series and shall be limited to no. 2 or larger for aluminum or copper-clad aluminum." Exception: The equipment-grounding conductor shall be limited to No. 4 or larger if in a listed cable assembly.

K. Article 31**4. Outlet, Device Pull and Junction Boxes.** 3**14**.2**7**(a) Exception. Delete in its entirety.

L. Article 334. Nonmetallic-Sheathed Cable.

(1) 334.10 (3) Delete in its entirety.

(2) 334.10(C)(3) Type NMS. Add: "For smoke detector circuits in dwellings."

(3) 334.12(A)(11) Uses not permitted. Add (11): "Type NM, NMC, or NMS shall not be installed in buildings, or structures such as stores, professional offices, motels, hotels, and similar occupancies classified as commercial or industrial."

(4) 334.12(A) (12) Uses not permitted. Add (12): "In any multifamily dwelling or other structure exceeding three (3) floors above grade. For the purpose of this article, the first floor of a building shall be that floor that has fifty (50) percent or more of the exterior wall surface area level with or above finished grade. One additional level that is the first level and not designed for human habitation and used only for vehicle parking, storage or similar use shall be permitted."

M. Article 340.Underground Feeder and Branch Circuit Cable.

(1) 340.10 (8) Uses permitted. Add (8): "Type UF cable shall be permitted to be imbedded in adobe construction."

(2) 340.10 (9). Add (9): "Type UF cable, or an approved electrical raceway shall be installed on straw bale residential construction."

(3) 340.12 (12) Uses not permitted. Add (12): "Type UF cable shall not be installed in buildings or structures such as stores, professional offices, motels, hotels, or similar occupancies classified as commercial or industrial."

N. Article 352 Rigid Nonmetallic Conduit. 352.12 (C) Uses not permitted. Add: "Schedule 40 rigid nonmetallic conduit shall not be used where the raceway is exposed."

O. Article 348 Flexible Metal Conduit. 348.12(1) Uses not permitted. Change: In wet locations.

P. Article 358 Electrical Metallic Tubing. 358.12 (7). Uses not permitted. Add: "Electrical metallic tubing shall not be permitted to be installed underground or in concrete slabs or walls, which are in contact with the earth."

Q. Article 394 Concealed Knob and Tube Wiring. 394.12 Uses not permitted. Concealed knob and tube wiring shall not be permitted to be installed except by special written permission from the electrical bureau. **R. Article 410 Luminaries.** 410.4 (D) (1) Bathtub and shower areas. Add (1): "Wall mount luminaries (fixtures) installed in bathtub or shower space shall be marked 'suitable for wet locations' and be ground fault circuit interruption protected."

S. Article 422. Appliances. 422.9. Installation of appliance. Add: "Where an evaporative cooler is installed, a listed raceway shall be installed during rough-in from the control point to the evaporative cooler location. The raceway shall contain an equipment-grounding conductor from the control box to the junction box at the unit. The equipment grounding conductor shall be sized in accordance with table 250.122."

T. Article 550. Mobile Homes and Mobile Home Parks.

(1) 550.32 (A) Mobile home service equipment. Change: "The mobile home service equipment shall be located adjacent to the mobile home and not mounted in or on the mobile home. The service equipment shall be located in sight from and not more than one hundred (100) feet from the exterior wall of the mobile home it serves. The service equipment shall be permitted to be located elsewhere on the premises, provided that a disconnecting means suitable for service equipment is located in sight from and not more than thirty (30) feet from the exterior wall of the mobile home it serves. Grounding at the disconnecting means shall be in accordance with 250.32."

(2) 550.32 (H) Mobile home service equipment. Add (H): "A 125 volt 15 or 20 amp receptacle outlet shall be installed with ground fault circuit interruption protection at each mobile home or manufactured home service equipment, or the local external disconnecting means permitted in 550.32 (A)."

(3) 550.32 (I) Overhead service Add (I): "Overhead service support shall comply with the serving utility requirements or be at least six inch by six inch (6" x 6") pressure-treated timber or equivalent round poles installed to a depth not less than four (4) feet below finish grade."

U. Article 552. Park Trailers. 552.47(D) Calculations. Add (D): Minimum allowable demand factors. Service and feeders for park trailer sites shall be permitted to be calculated in accordance with article 550.31 for mobile homes.

V. Article 700. Emergency Systems. 700.1. Scope. Add: "Refer to the latest adopted edition of the building code and the NFPA-101 life safety code for exit and emergency lighting requirements."

W. Article 800. Communications Circuits. 800.154 (H). Applications of listed communications wires and cables. Add (H): "Each dwelling unit telephone outlet shall have not less than 4 pairs of No. 24 AWG communication conductors. Each 4 pair cable shall serve not more than three telephone outlets. Conductors shall terminate in a listed box or on a terminal block near the electrical service or location of telephone service. Any exterior wall penetration shall be installed in a listed raceway."
[**14**.10.4.10 NMAC - Rp, **14**.10.4.10 NMAC, **7**-1-05]

14.10.4.11 SMOKE DETECTORS. For smoke detectors, refer to the latest adopted edition of the building code. Smoke detectors installed in new single family dwellings shall be served by a single source. When two (2) or more smoke detectors are required in a dwelling unit, they shall be interconnected with a multi-conductor cable assembly. Location and power back-up requirement shall be in accordance with the latest adopted edition of the building code.
[**14**.10.4.11 NMAC - Rp, **14**.10.4.11 NMAC, **7**-1-05]

14.10.4.12 ACCESSIBILITY REQUIREMENTS FOR PERSONS WITH DISABILITIES. Add: "Electrical device installation shall comply with accessibility codes adopted for New Mexico."
[**14**.10.4.12 NMAC - Rp, **14**.10.4.12 NMAC, **7**-1-05]

HISTORY OF 14.10.4 NMAC:
Pre-NMAC History:
The material in this Part was derived from that previously filed with the State Records Center and Archives under:
CIC 71-1, 1971 National Electrical Code, filed 12-01-71
CIC71-2, 1972 New Mexico Electrical Code, filed 12-1-71
CID 78-1, 1978 New Mexico Electrical Code, filed 01-31-78
CID EB 81-3, State of New Mexico Electrical Code Revised to July 24, 1981, Technical Provision based on the 1981 National Electrical Code and Related Codes and Standards, filed 11-24-81
CID EB 84-1, State of New Mexico Electrical Code, filed 05-11-84

CID NMEB 93-1, State of New Mexico Electrical Code 1993, filed 02-25-93.

History of Repealed Material:
14 NMAC 10.4, Housing and Construction, Electrical Codes, State of New Mexico Electric Code (filed 01-15-97), repealed 07-01-99.
14 NMAC 10.4, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code (filed 06-01-99), repealed 12-01-00.
14.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code (filed 10-16-2000), repealed **7**-30-02.
14.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code (filed **7**-30-02) repealed **7**-1-04.
14.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code (filed 05-27-04) - part name later changed to 2002 State of New Mexico Electrical Code (filed 10-18-04) both repealed 07-01-05.

Other History:
CID NMEB, State of New Mexico Electric Code (filed 2-25-93) replaced by **14** NMAC 10.4, Housing and Construction, Electrical Codes, State of New Mexico Electric Code, effective 01-31-97.
14 NMAC 10.4, Housing and Construction, Electrical Codes, State of New Mexico Electric Code (filed 01-15-97) replaced by **14** NMAC 10.4, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code, effective 07-01-99.
14 NMAC 10.4, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code (filed 06-01-99) replaced by **14**.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code, effective 12-01-00.
14.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code (filed 10-16-2000) replaced by **14**.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code, effective 07-30-02.
14.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code (filed 07-01-02) replaced by **14**.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code, effective 07-01-04.
14.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code (filed 05-27-04) and part name later changed to “2002 State of New Mexico Electrical Code” (filed 10-18-04) replaced by **14**.10.4 NMAC, Housing and Construction, Electrical Codes, 2005 State of New Mexico Electrical Code, effective 07-01-05.